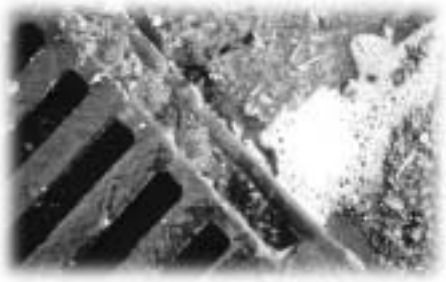
SOUND FACTS

Stormwater and Combined Sewer Overflows

Stormwater (or urban runoff) is precipitation that falls on rooftops, roads and other developed land and drains to storm drains, streams and eventually Puget Sound.



A combined sewer overflow (CSO) occurs when a combined sanitary and storm sewer system is overloaded by rainfall. When this happens the system is designed to discharge enough water so that it can function properly again. Discharged water is a combination of untreated sewage and stormwater.

Problems Caused by Stormwater and CSOs

Stormwater, if not properly managed, can pose both water quality and water quantity problems. Stormwater typically contains heavy metals, oil and grease, organic toxins, bacteria, nutrients and sediments. These pollutants degrade water quality, harm or kill fish and other aquatic life, close productive shellfish growing areas to harvest, contaminate sediments, and threaten drinking water supplies. Large volumes of stormwater can degrade stream channels, alter or destroy fish and wildlife habitat, and cause flooding in communities. Combined sewer overflows contain untreated sewage that can degrade water quality, harm fish and wildlife, and threaten public health.

Stormwater is listed as one of the factors limiting our ability to recover salmonid populations. The Department of Health cited stormwater as one of the sources of shellfish growing area contamination and the Department of Ecology listed stormwater as one of the causes of water quality impairment in state waters in the Clean Water Act section 305(b) report to Congress. The Puget Sound Ambient Monitoring Program, the region's long-term environmental monitoring initiative, found that 38% of urban sediments surveyed were contaminated.

Solutions – Updates to the Puget Sound Management Plan

In December 2000, the Puget Sound Action Team amended the Puget Sound Water Quality Management Plan, the state strategy for protecting and restoring Puget Sound. As part of the revision, the Stormwater and Combined Sewer Overflows Program was updated to reflect current science and include innovative management techniques.

Overview of the Puget Sound Stormwater and Combined Sewer Overflows Program

- Local governments
  - Develop and carry out comprehensive stormwater management programs
  - Manage growth and protect resources and open spaces through Growth Management Act (GMA) planning
  - Carry out plans to reduce sewage discharges from their combined sewer systems
- The Department of Ecology provides regional technical standards, assistance and funding to local governments and issues federal stormwater permits.
- The Puget Sound Action Team and state agencies provide technical assistance and funding to local governments to help them develop comprehensive stormwater management programs.
- The Department of Transportation manages and treats runoff from state highways.
- The U.S. EPA ensures that runoff from federal facilities is properly managed.
- Tribes ensure that runoff from tribal lands is properly managed.
- A broad-based committee of regional experts periodically assesses research needs and shares research findings.
- The Puget Sound Water Quality Action Team evaluates the program by tracking programmatic and environmental measures.

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PUGET SOUND ACTION TEAM

Comprehensive Stormwater Programs for Cities and Counties

Each city and county in Puget Sound is directed to manage stormwater through local land use planning under GMA and by developing and carrying out a comprehensive stormwater management program.

Local land use planning under GMA should include:

- Designating urban growth areas with appropriate densities and capital facilities to reduce sprawl.
- Providing adequate vegetative buffers and development setbacks in critical areas ordinances to protect sensitive areas.
- Assessing how full build-out according to the comprehensive plan will alter aquatic resources.
- Using measures to protect natural hydrology and processes, such as setting goals for limiting impervious surfaces and preserving open spaces.

Comprehensive stormwater management programs should include:

- Stormwater controls for new development/ redevelopment, including review of site plans.
- Periodic inspections of construction sites.
- Ongoing maintenance of permanent facilities.
- Source control (e.g., spill prevention/cleanup, employee training, covered storage areas).
- Identification and elimination of illicit discharges and water quality response program.
- Identification and ranking of existing drainage problems.
- Public education and involvement activities.
- Use of low impact development practices (e.g., retaining native vegetation, reducing impervious surfaces, infiltrating using bioretention "rain gardens").
- Participation in watershed or basin planning.
- Local funding capacity..
- Programmatic and environmental monitoring to evaluate program success.
- Schedule for implementing activities.

Low Impact Development Practices

A key element of a comprehensive stormwater management program is the use of low impact development (LID) practices. LID is an environmentally friendly approach to land development and stormwater management designed to reduce impacts on watershed hydrology and aquatic resources. LID is based on the premise that nature knows best. Forests and other natural areas are extremely effective groundwater recharge areas. In a natural, undisturbed forest, there is very little surface runoff – most water is taken up by plants, soaks into the ground or evaporates. So rather than collecting and conveying stormwater through pipes to an off-site discharge point, LID uses natural vegetation and landscaped "rain gardens" on site to capture, treat and infiltrate stormwater. This helps maintain watershed hydrology as development occurs.

For more information, visit the Puget Sound Water Quality Action Team's web page at: www.psat.wa.gov. Or call us at (360) 725-5444 or (800) 54-SOUND

Bioretention garden in parking lot *Courtesy of Low Impact Development Center*

For more information, check out the complete text of the Puget Sound plan, additional fact sheets about the update process, and information about the Action Team at **www.psat.wa.gov** or call the Action Team at **(360) 725-5444** or **(800) 54-SOUND.**
If you need these materials in an alternative format, call our TDD number (800) 833-6388.